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Attorney's Docket No.:1575.2003-001

Enter Substitute Specification 12/14/03

HIGH AND LOW FREQUENCY BAND DUAL OUTPUT SENSOR

RELATED APPLICATION

This application claims the benefit of U.S. Provisional Application No. 60/223,884, filed on August 9, 2000; the entire teachings of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Transducers are devices used for converting energy from one form to another to measure a physical quantity. A typical transducer converts mechanical force or acceleration into electromagnetic energy. A transducer is mechanically coupled to an object to measure its motion. When this motion is vibrational, usually only certain frequency ranges are of interest. In such cases, a sensor employs a transducer and some means of filtering out the unwanted frequencies. To achieve this filtering, the sensor normally includes: (a) a transducer providing an output signal with a broad frequency range and (b) an amplifying and filtering circuit that is electrically connected to the transducer's output and eliminates the unwanted frequencies outside a given frequency band of interest.

Existing sensors are designed for sensing either low-frequency vibrations or high-frequency vibrations. To obtain signals representing both the low-frequency vibrations and high-frequency vibrations, two sensors must be used.